

# NICHIA

## LD Receptacle Module

# NUV201E

Product Guide(UTZ-SC0071\_2)  
2009/12/14

Engineering Sample

### Specifications

- Optical Fiber Output Power: 140mW
- Ferrule Type: SC

### Absolute Maximum Ratings

(Tc=25°C)

Item	Symbol	Absolute Maximum Ratings	Unit
Optical Fiber Output Power*	Po	175	mW
LD Reverse Voltage	Vr (LD)	5	V
PD Reverse Voltage	Vr (PD)	20	V
Storage Temperature	Tstg	-35 ~ 85	°C
Operating Case Temperature	Tc	15 ~ 30	°C

\* Core Diameter=40μm, NA=0.20, Fiber Length=1.0m

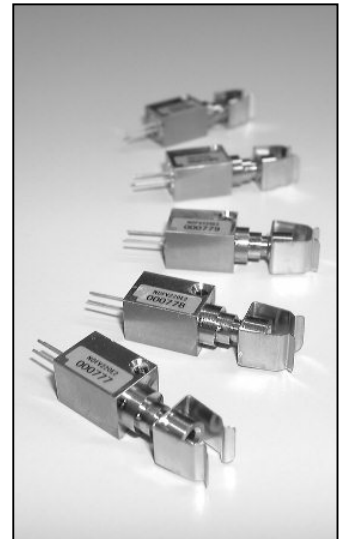
### Initial Electrical/Optical Characteristics

(Tc=25°C)

Item	Symbol	Test Condition	Min	Typ.	Max	Unit
Optical Fiber Output Power*	Po	CW Operation	-	-	140	mW
Peak Wavelength	λp	Po=140mW	400	405	410	nm
Threshold Current*	Ith	CW Operation	-	90	130	mA
Operating Current*	Iop	Po=140mW	-	230	270	mA
Slope Efficiency*	η	CW 70-140mW	0.6	1.0	1.8	W/A
Operating Voltage*	Vop	Po=140mW	-	4.1	4.6	V
Beam Divergence Full Angle (1/e <sup>2</sup> )*	1/e <sup>2</sup>	Po=140mW	7	9	11	deg.
Monitor Current**	Im	Po=140mW	0.7	1.4	3.0	mA

\* Core Diameter=40μm, NA=0.20, Fiber Length=1.0m

\*\* Monitor Current is short time power reference purpose only. Not guaranteed for accuracy.



All figures in this specification are measured by Nichia's method and may contain measurement deviations. The above specifications are for reference purpose only and subjected to change without prior notice.

**NICHIA CORPORATION**

<http://www.nichia.co.jp>

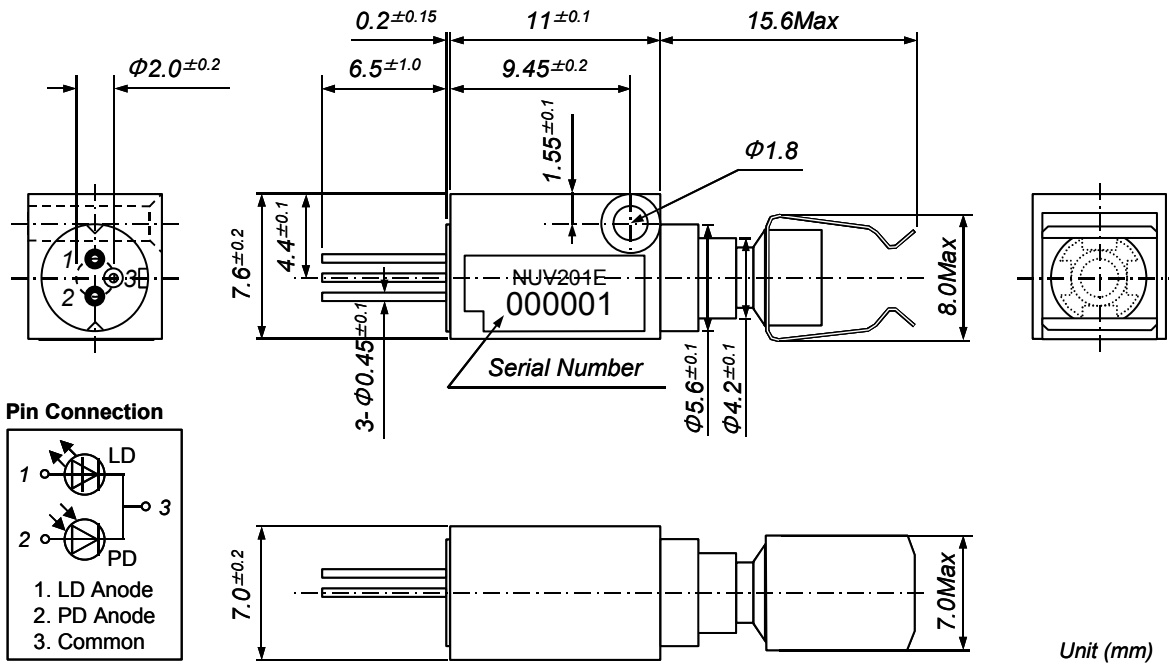
◆ HEAD OFFICE

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◆ CONTACT

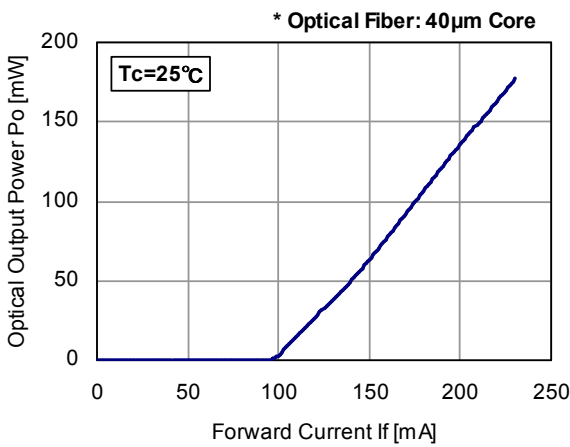
TOKYO SALES DEPARTMENT OPTOELECTRONICS PRODUCTS DIV.  
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TOKYO 108-0014, JAPAN  
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### Outline Dimension

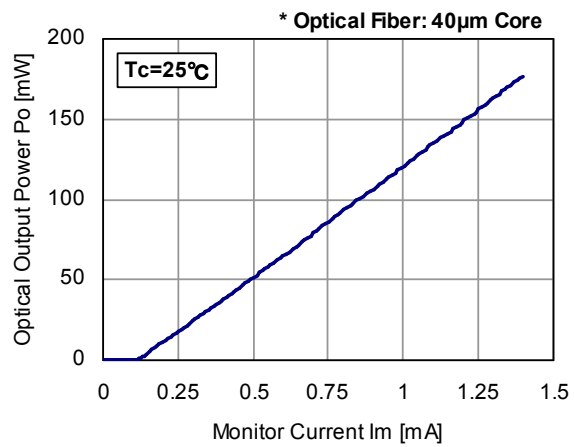


### Typical Characteristics

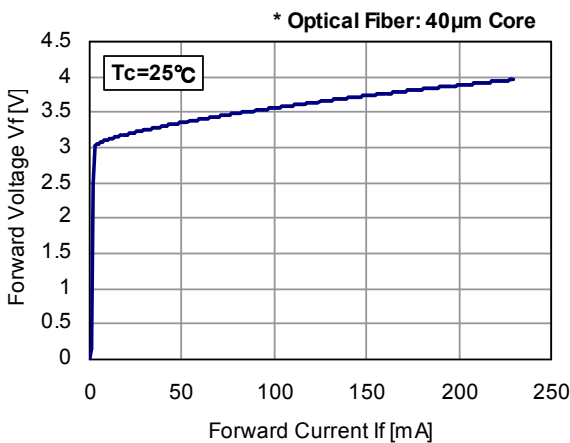
◆ Optical Output Power vs. Forward Current



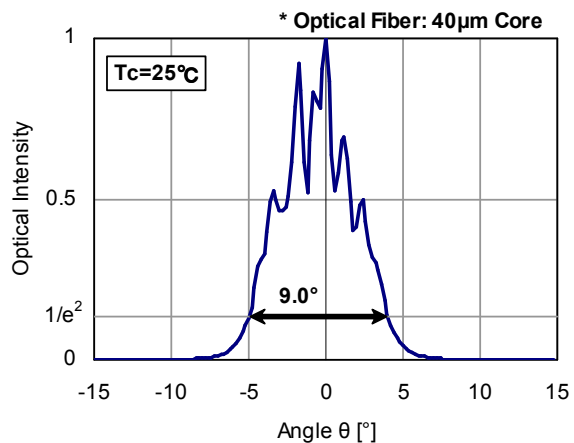
◆ Optical Output Power vs. Monitor Current



◆ Forward Voltage vs. Forward Current



◆ Far Field Pattern



## ■Cautions

### (1) Safety of Laser light

- **Laser light can damage the human eyes and skin.** Do not expose the eye or skin to any laser light directly and/or through optical lens. When handling the LD Receptacle Modules, wear appropriate safety glasses to prevent laser light, even any reflections from entering to the eye. Focused laser beam through optical instruments will increase the chance of eye hazard.
- These LD Receptacle Modules are classified in **Class 4 of the IEC60825-1 and 21 CFR Part 1040.10 Safety Standards.** It is absolutely necessary to take overall safety measures against User's modules, equipment and systems into which Nichia LD Receptacle Modules are incorporated and/or integrated.



### (2) Operating method

- The LD Receptacle Module shall change its forward voltage requirement and optical output power according to temperature change. Also, the LD Receptacle Module will require more operation current to maintain same output power as it degrades. In order to maintain output power, use of APC (Automatic Power Control) is recommended, which use monitor feedback to adjust the operation current.
- Confirm that electrical spike current generated by switching on and off does not exceed the maximum operating current level specified herein above as absolute max rating. Also, employ appropriate countermeasures to reduce chattering and/or overshooting in the Circuit.

### (3) Static Electricity

- Static electricity or electrical surges will reduce and degrade the reliability of the LD Receptacle Modules. It is recommended to use a wrist strap or anti-electrostatic glove when handling the Product.

### (4) Absolute Maximum Rating

- Active layer of LD Receptacle Modules shall have high current density and generate high electric field during its operation. In order to prevent excessive damage, the LD Receptacle Module must be operated strictly below Absolute Max Rating.

### (5) Others

- Nichia LD Receptacle Modules described in this brochure are intended to be used for ordinary electronic equipment (such as office equipment, communications equipment, measurement instruments and household appliances). Consult Nichia's sales staff in advance for information on the applications in which exceptional quality and reliability are required, particularly when the failure or malfunction of the LD Receptacle Modules may directly jeopardize life or health (such as for airplanes, aerospace, submersible repeaters, nuclear reactor control systems, automobiles, traffic control equipment, life support systems and safety devices).
- The Purchaser must acknowledge that any LD Receptacle Module can be failed statically and must design its equipments fail safe design. Prior to use of the LD Receptacle Module, please confirm that the LD Receptacle Module, as described in Nichia's specifications, meets the life expectancy needs of, and provides the features required by the Circuit and any related modules, equipment and/or systems.
- Nichia prohibit Purchaser from reverse engineering, disassembling, or taking any other steps to derive the structure or design of the LD Receptacle Module.
- The appearance and specifications of the product may be modified for improvement without notice. The formal specifications must be exchanged and signed by both parties before large volume purchase begins.
- No unauthorized transmission or reproduction of this document, either in whole or in part, is permitted.